

## ABSTRACT OF THE DISCLOSURE

A ring-shaped core metal is pressed and compressed by a main punch and a counter punch so as to have a wave shape. Moreover, each group of three micro-protrusions provided on each of top points of the wave shape are cut in the  
5 core metal. Then, three notches are cut on the core metal corresponding to the micro-protrusions. Furthermore, plastic flow is generated at a surface layer of the core metal due to partial compression by the notches at the time of pressing and compressing. Then, the waves are formed on the core metal with the notches as the top points. The notches are cut at seven sections respectively on a front  
10 surface and a rear surface of the core metal. Thus, seven waves are formed on the core metal in total. Since the notches are formed on the front and the rear surfaces of the waves, a "return" phenomenon is not generated as seen in a conventional cool working method. Thus, the waves are formed at high accuracy.